The limitation of "wherein said different search conditions include phases and search periods corresponding to a plurality of PN sequence phase search starting points" is not disclosed by Blakeney, II et al., and the deficiency is not cured by Naruse et al. Neither Blakeney, II et al. nor Naruse et al. disclose conditions including phases, search periods, and a plurality of PN sequence phase search starting points. Claims 1 and 7 are amended to include this limitation. Further, Blakeney et al. merely assigns demodulation elements and signals, and the synchronization of Naruse et al. occurs on power-up based on a preset search width. In contrast, the claims of the present application recite that different search conditions, including starting points, phases and periods, are assigned to each searcher by one controller, thus reducing the search time by utilizing the at least two PN phase sequence phase searchers in such a manner. Accordingly, withdrawal of the rejections of Claims 1 and 7 is respectfully requested.

Please note that Claims 3, 4, 9 and 10 are amended to properly depend on their respective independent claims, and not for purposes of patentability.

Independent Claims 1 and 7 as amended are believed to be in condition for allowance. Without conceding the patentability per se of dependent Claims 3-6 and 9-13, these are likewise believed to be allowable by virtue of their dependence on their respective amended independent claims. Accordingly, reconsideration and withdrawal of the rejections of dependent Claims 3-6 and 9-13 is respectfully requested.

Accordingly, all of the claims pending in the Application, namely, Claims 1, 3-7 and 9-20, are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicant's attorney at the number given below.

Respectfully submitted,

Paul J. Farrell
Reg. No.: 33,494
Attorney for Applicant

DILWORTH & BARRESE, LLP
333 Earle Ovington Blvd.
Uniondale, New York 11553
Phone: 516-228-8484

Rewritten claim(s) marked up to show all the changes relative to the previous version of claim(s):

1. (Amended) A PN sequence phase searching apparatus in a multi-carrier CDMA mobile communication system, comprising:

at least two PN sequence phase searchers for searching for the PN sequence phase of one of at least two different band input signals using different assigned search conditions and for outputting PN phase and energy information; and

a controller for assigning said different search conditions to said at least two PN sequence phase searchers and for determining a minimum phase variation period based on the PN phase and energy information received from said at least two PN sequence phase searchers,

wherein said different search conditions include phases and search periods corresponding to a plurality of PN sequence phase search starting points.

3. (Amended) The PN sequence phase searching apparatus of claim 1 [2], wherein said plurality of PN sequence phase search starting points in said different search conditions are assigned to said at least two PN sequence phase searchers by dividing a PN sequence by the number of the PN sequence phase searchers.

4. (Amended) The PN sequence phase searching apparatus of claim 1 [2], wherein said different search conditions are set by dividing a PN sequence into predetermined periods and the divided search periods are sequentially assigned to said at least two PN sequence phase searchers.

7. (Amended) A PN sequence phase searching method in a multi-carrier CDMA mobile communication system, comprising the steps of:

searching for the PN sequence phase of one of at least two different band input

signals in parallel using different assigned search conditions;

outputting PN phase and energy information; and

determining a minimum phase variation period based on the PN phase and energy information,

wherein the different assigned search conditions include phases and search periods corresponding to a plurality of PN sequence phase search starting points.

9. (Amended) The PN sequence phase searching method of claim 7 [8], wherein the different search conditions are set by dividing a PN sequence by the number of the parallel PN sequence phase searches and assigning corresponding phases produced by the division as the PN sequence phase search starting points.

10. (Amended) The PN sequence phase searching method of claim 7 [8], wherein the different search conditions are set by dividing a PN sequence into predetermined periods and the divided search periods are sequentially assigned for the parallel PN sequence phase searches.

11. (Amended) The PN sequence phase searching method of claim 7, wherein said minimum phase variation period is determined by phase information corresponding to the highest energy among the energy information [energies].